

CORRES. CONTROL
OUTGOING LTR NO.

DOE ORDER# 4700.1

15 RF 00980

DIST.	LTR	ENC
AMARAL, M.E.		
BURLINGAME, A.H.		
BUSBY, W.S.		
BRANCH, D.B.		
CARNIVAL, G.J.		
DAVIS, J.G.		
FERRERA, D.W.		
FRAY, R.E.		
GEIS, J.A.		
GLOVER, W.S.		
GOLAN, P.M.		
HANNI, B.J.		
HARMAN, L.K.		
HEALY, T.J.		
HEDAH, T.		
HILBIG, J.G.		
HUTCHINS, N.M.		
JACKSON, D.T.		
KELL, R.E.		
KUESTER, A.W.		
MARX, G.E.		
McDONALD, M.M.		
McKENNA, F.G.		
MONTROSE, J.K.		
MORGAN, R.V.		
POTTER, G.L.		
PIZZUTO, V.M.		
RISING, T.L.		
SANDLIN, N.B.		
SCHWARTZ, J.K.		
SETLOCK, G.H.		
STEWART, D.L.		
STIGER, S.G.		
TOBIN, P.M.		
VOORHEIS, G.M.		
WILSON, J.M.		
M. BUDDY	✓	✓
F. W. CRAMEE	✓	✓
M. L. HOGG	✓	✓
N. A. HOLSTEEN	✓	✓
E. G. MAST	✓	✓
R. A. RANDALL	✓	✓
R. ROBERTS	✓	✓
CORRES. CONTROL	X	X
ADMN RECORD/080	✓	✓
TRAFFIC		
PATS/T130G		

CLASSIFICATION:

UCNI		
UNCLASSIFIED	✓	✓
CONFIDENTIAL		
SECRET		

AUTHORIZED CLASSIFIER
DOCUMENT CLASSIFICATION
REVIEW WAIVER PER
CLASSIFICATION OFFICE
DATE

N REPLY TO RFP CC NO:

ACTION ITEM STATUS
1 PARTIAL/OPEN N/A
2 CLOSED
TR APPROVALS:

ORIG & TYPIST INITIALS

EG&G ROCKY FLATS

EG&G ROCKY FLATS, INC.

ROCKY FLATS PLANT, P.O. BOX 464, GOLDEN, COLORADO 80402-0464 • (303) 966-7000

January 23, 1995

95-RF-60980

Kurt Muenchow
Environmental Restoration Division
DOE, RFFO

OPERABLE UNIT (OU) 6, CHEMICALS OF CONCERN (COC) TECHNICAL MEMORANDUM (TM)
NO. 4 - NAH-003-95

Action: None required

On December 29, 1994, the Department of Energy, Rocky Flats Field Office (DOE, RFFO) received correspondence from the Environmental Protection Agency (EPA), granting agency approval of the Walnut Creek Drainage (OU6) COC TM NO. 4. As stated in EPA's letter, this approval is contingent upon DOE's inclusion of arsenic as a COC in Walnut Creek stream sediments. Although EG&G's OU6 Remedial Investigation (RI) staff still are of the opinion that arsenic detected in OU6 sediment samples is derived from natural sources, and not from past RFETS activities, attempts to convince EPA that arsenic is within background levels have been unsuccessful. (Attached is the rationale for excluding arsenic as a stream sediment COC, as provided in the DOE response to agency comments on the OU6 COC TM.) Therefore, rather than delay the RI schedule further, the OU6 RI staff has accepted EPA's request and are recommending the following process to address the arsenic issue for OU6 sediments:

1. Arsenic will be included as a COC in human health risk assessment (HHRA) on stream sediments.
2. In the uncertainty section, the HHRA results prepared including arsenic should be compared to a risk assessment prepared excluding arsenic to determine the impacts of including it in the risk calculations.
3. Also in the uncertainty section, the results of a risk assessment conducted on the UCL⁹⁵ of arsenic in background sediments should be presented and compared with the OU6 results. EG&G staff risk assessors are of the opinion that a HHRA conducted on the UCL⁹⁵ background arsenic values would likely exceed a 10⁻⁶ risk.
4. Additional information on the ubiquitous nature of arsenic in the surface soils of the Front Range of the Rockies and a discussion of RFETS arsenic process sources, if any are found to have existed, will be provided to support conclusions that DOE should not cleanup arsenic in sediments to the exclusion of more important site-related contaminants, such as plutonium and americium.

Should you have any questions or concerns regarding this issue, please call me at 966-6987.

N. A. Holsteen
Operable Unit No. 6 Closure
Environmental Restoration Program Division

RAR:cb

Orig. and 1 cc - K. Muenchow

Attachment:
As Stated

ADMIN RECORD

Comment No. 8 on OU6 COC TM: The argument presented for eliminating arsenic as a COC in sediment is inconclusive. Unless a better case can be made for elimination, it should be retained.

Response: It is the DOE position that the arguments presented in the text support a conclusion that arsenic in stream sediment is within background (see Attachment 5) and should not be considered a PCOC. The argument excluding arsenic as a PCOC in stream sediment is consistent with the arguments excluding manganese and barium in stream sediment, which were not discussed in EPA's comments.

Arsenic failed only the Gehan test which shows that the distribution of analytical results for arsenic in stream sediment was statistically different from the distribution of background data. However, the maximum concentration of arsenic in stream sediment (5.8 mg/kg) is well below the background maximum of 17.3 mg/kg, and is also below the background UTL_{99/99} (10 mg/kg) and the background mean plus two standard deviations (7.4 mg/kg). Therefore, although the distribution of arsenic in stream sediment is statistically different from background, the maximum concentration is well below other comparison criteria.

In addition, surface soil is the most logical source of arsenic in stream sediment since the streams do not receive sediment from other contaminant sources. However, arsenic in surface soil was determined not to be statistically different from background. Therefore, since the maximum concentration of arsenic in stream sediment is below background comparison criteria and arsenic is not above background in surface soil, which is the largest source of sediment in stream beds, arsenic is excluded from consideration as a COC in stream sediment.